

Supplementary note to the paper: ...

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P/045/61/020/001/005/006
B108/3209

$$H_{is}^{(i)} = \frac{5}{2} \eta_{(i)} x_{is}^{(i)} \frac{\gamma_{(i)} \Theta_{(i)}^2}{\alpha_{(i)}^{ii}} + \frac{5}{2} \eta_{(j)} x_{is}^{(j)} \frac{\gamma_{(j)} \Theta_{(j)}^2}{\alpha_{(j)}^{ij}} + \dots \quad (20)$$

$$\begin{aligned} H_{anis}^{(i)} = & \frac{7}{4} \eta_{(i)} x_{anis}^{(i)} \frac{\gamma_{(i)} \delta_{x(i)} \Theta_{(i)}^2}{\alpha_{(i)}^{ii} \delta_{x(i)}} + \frac{7}{4} \eta_{(j)} x_{anis}^{(j)} \frac{\gamma_{(j)} \delta_{x(j)} \Theta_{(j)}^2}{\alpha_{(j)}^{ij} \delta_{x(j)}} + \\ & + \frac{1}{4} \xi_{(i)} \frac{B_{(i)} \Theta_{(i)}}{\alpha_{(i)}^{ii} \delta_{x(i)}} + \frac{1}{4} \xi_{(j)} \frac{B_{(j)} \Theta_{(j)}}{\alpha_{(j)}^{ij} \delta_{x(j)}} + \dots \end{aligned} \quad (21)$$

and

—Here

$$\text{where the equalities } \delta_{x(i)} = \frac{\alpha_{||}^{(i)} - \alpha_{\perp}^{(i)}}{3\alpha_{(i)}} \text{ and } \alpha_{(i)} = \frac{1}{3} (\alpha_{||}^{(i)} + 2\alpha_{\perp}^{(i)}) \quad (22)$$

describe the anisotropy of polarizability of the isolated molecule of species "i" and its mean polarizability, respectively.

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$$\delta_{\gamma(i)} = \frac{2(3\gamma_{||}^{(i)} + 3\gamma_{\perp}^{(i)} - 4\gamma_{\perp\perp}^{(i)})}{21\gamma_{(i)}}, \quad \gamma_{(i)} = \frac{1}{15}(3\gamma_{||}^{(i)} + 12\gamma_{\perp}^{(i)} + 8\gamma_{\perp\perp}^{(i)}) \quad (23)$$

gives the anisotropy of hyperpolarizability of the molecule of species *i* and its mean hyperpolarizability. The four parameters of (20) and (21) are defined as

$$\eta_{(i)} = \frac{1}{10} \left(\frac{2\epsilon+1}{3\epsilon+2} \right)^{\frac{1}{2}} \left(\frac{n_i^2 - 1}{n_i^2 + 2} \right)^{\frac{1}{2}} (\chi_{\perp}^{(i)} + 2\chi_{||}^{(i)}), \quad (24)$$

$$\xi_{(i)} = \left(\frac{2\epsilon+1}{3\epsilon+2} \right) \left(\frac{n_i^2 - 1}{n_i^2 + 2} \right)^{\frac{1}{2}} (\chi_{\perp}^{(i)} + 2\chi_{||}^{(i)}), \quad (25)$$

and

$$\kappa_{is}^{(i)} = \{15\gamma_{(i)} \bar{F}_{i3}^2 - 2(3\gamma_{||}^{(i)} + 4\gamma_{\perp}^{(i)}) (\bar{F}_{i3}^2 - \bar{F}_{i1}^2)\} \{5\gamma_{(i)} \bar{F}_i^2\}^{-1}, \quad (26)$$

$$\kappa_{axis}^{(i)} = \{21\gamma_{(i)} \delta_{\gamma(i)} \bar{F}_{i3}^2 - 4(3\gamma_{||}^{(i)} - 2\gamma_{\perp}^{(i)}) (\bar{F}_{i3}^2 - \bar{F}_{i1}^2)\} \{7\gamma_{(i)} \delta_{\gamma(i)} \bar{F}_i^2\}^{-1}, \quad (27)$$

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wherein the mean square molecular fields \bar{F}_{i1}^2 , \bar{F}_{i3}^2 , and \bar{F}_i^2 are given, for axially symmetric molecules, by

$$\bar{F}_{i1}^2 = \bar{F}_{i2}^2 = \frac{9}{20} \left(\frac{2\epsilon+1}{3\epsilon+2} \right)^2 \left(\frac{n_i^2 - 1}{n_i^2 + 2} \right)^{\eta_i} \chi_{\perp}^{(i)} \frac{\theta_{(i)}^2}{\alpha_{(i)}^{\eta_i}}, \quad (28)$$

$$\bar{F}_{i3}^2 = \frac{9}{5} \left(\frac{2\epsilon+1}{3\epsilon+2} \right)^2 \left(\frac{n_i^2 - 1}{n_i^2 + 2} \right)^{\eta_i} \chi_{||}^{(i)} \frac{\theta_{(i)}^2}{\alpha_{(i)}^{\eta_i}}, \quad (29)$$

and

$$\bar{F}_i^2 = 2\bar{F}_{i1}^2 + \bar{F}_{i3}^2 = 9\eta_{(i)} \frac{\theta_{(i)}^2}{\alpha_{(i)}^{\eta_i}}; \quad (30)$$

In Kielich's previous paper, the molecular refraction R_m was derived on the simplifying assumption that $\eta_{(i)} = 1$. Without the latter, the general expression

$$R_m = \frac{4\pi}{3} N \sum_i x_i \alpha_{(i)} \left\{ 1 + \frac{1}{3} (\lambda_{||}^{(i)} \varphi_{||}^{(i)} + 2\lambda_{\perp}^{(i)} \varphi_{\perp}^{(i)}) + \frac{5}{2} \eta_{(i)} x_i \frac{\gamma_{(i)} \theta_{(i)}^2}{\alpha_{(i)}^{\eta_i}} \right\}, \quad (32)$$

holds. There are 4 references: 1 Soviet-bloc and 3 non-Soviet-bloc.

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Supplementary note to the paper: ...

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B108/B209

ASSOCIATION: Institute of Physics, Polish Academy of Sciences, Warsaw

SUBMITTED: October 17, 1960

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Card 9/9

P/518/62/011/001/003/008
D207/D308

AUTHOR: Kielich, Stanisław

TITLE: Molecular theory of magnetic birefringence of gases and diamagnetic liquids

SOURCE: Poznańskie Towarzystwo Przyjaciół Nauk. Komisja Matematyczno-Przyrodnicza. Prace. v. 11, no. 1, 1962. Fizyka dielektryków. no. 1, 65 - 110

TEXT: This paper was presented on October 19, 1961 at a meeting of the Komisja Matematyczno-Przyrodnicza PTPN (Mathematical and Scientific Committee, PTPN). The methods of classical electro-dynamics and statistical mechanics are used to establish the general molecular theory of magnetic birefringence of diamagnetic liquids. An equation is derived for the Cotton-Mouton constant C_m for any isotropic medium and this equation is more general than any known so far. The equation is discussed in detail for the cases of gases, liquids and multicomponent systems. In the case of ideal gases the usual Langevin and Born expressions are obtained. The general equa-

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tion for C_m applied to liquids gives, in the first approximation, the results recently published by A.D. Buckingham and J.A. Pople (Proc. Phys. Soc. A, v. 68, 905, 1955; Proc. Phys. Soc. B, v. 69, 1133, 1956) as well as by A. Piekarz and S. Kielich (J. Phys. Radium, v. 18, 490, 1957; J. Chem. Phys., v. 29, 1292, 1958; Acta Phys. Polon., v. 17, 209, 1958). In the further approximations new equations are obtained for C_m which contain various corrections due to molecular dipole or quadrupole fields and the molecular 'superpolarizability' produced by these fields. The basis of the theory of magnetic birefringence of multicomponent systems is also given and applied to gas mixtures and liquid solutions. Radial and angular correlations of liquid molecules and their solutions are described by means of molecular configuration distribution functions. In this way the problem of intermolecular interactions in magnetic birefringence is related to correlations used by the author earlier in developing a theory of molecular scattering of light in liquids and multicomponent systems. Acknowledgement is made to Professor Doctor A. Piekarz for discussing this work.

ASSOCIATION: Instytut Fizyki Polskiej Akademii Nauk, Poznań (Institute of Physics, Polish Academy of Sciences, Poznań)

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P/518/62/011/001/006/008
D207/D308

AUTHORS: Kielich, Stanisław, and Surma, Marian

TITLE: Magnetic birefringence of liquid solutions. III. Theory and comparison with experiment

SOURCE: Poznańskie Towarzystwo Przyjaciół Nauk. Komisja Matematyczno-Przyrodnicza. Prace. v. 11, no. 1, 1962. Fizyka dielektryków. no. 1, 153 - 172

TEXT: This paper was presented on October 19, 1961, at a meeting of the Komisja Matematyczno-Przyrodnicza PTPN (Mathematical and Scientific Committee, PTPN). A general formula is obtained for the molar Cotton-Mouton constant, C_M , of multicomponent systems and it is applied to liquid solutions of polar liquids in nonpolar solvents. It is found that for condensed multi-component systems C_M is not an additive quantity. This nonadditivity is due to interactions between like molecules as well as between unlike molecules. If these interactions can be neglected, as in the case of rarified gases, then C_M is an additive quantity. The constant C_M of a binary solution can be represented formally as a sum of the molar con-

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stants C_1^M and C_2^M of the two components. These constants include, however, angular correlation factors $R_{CM}^{(1)}$ and $R_{CM}^{(2)}$ which depend linearly on the molar fractions of the two components in the solution and on parameters J_{ij} ($i, j = 1, 2$) which are determined by the molecular symmetry and intermolecular interactions. The theory predicts different values of the correlation factors for different molecular symmetries. For polar molecules of a given symmetry the correlation factors depend on the symmetry of nonpolar solvent molecules. Assumption of spherical symmetry for solvent molecules gives a linear dependence of R_{CM} on the concentration of the solution.

Measurements of magnetic birefringence reported in Parts I and II, and by E.J. Burge and O. Snellman, for solutions of polar liquids in carbon tetrachloride (spherical molecules) show that within the experimental error the angular correlation factors of the polar components, in agreement with the theory depend linearly on the concentration of the solution. Comparing the experimental values of the correlation factors for pure liquids with the theoretical expressions, parameters J_{ii} are calculated and the numerical values ob-

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tained are used to determine the molar constants C^M for solutions of polar liquids in benzene. The values of C^M calculated in this way agree satisfactorily with the experimental values, especially for concentrated solutions, with the exception of m-nitrotoluene in benzene. The deviations of the theoretical values of C^M from the experimental constants at low concentrations are the consequence of the assumption that $J_{12} = J_{21} = 0$, i.e. they are due to neglecting the interactions between solvent and solute molecules. If non-zero values of J_{12} and J_{21} are used, the agreement between the theory and experiment is improved. The assumption $J_{12} = J_{21} = 0$ is justified only for solutions of nitrobenzene because the molar constant C^M of nitrobenzene in solution is independent of the nature of the solvent (cf. Parts I and II). Acknowledgement is made to Professor Doctor Piekara for discussions and advice. There are 6 figures and 1 table.

ASSOCIATION: Instytut Fizyki Polskiej Akademii Nauk, Poznań (Institute of Physics, Polish Academy of Sciences, Poznań)
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Magnetic birefringence of ...

P/518/62/011/001/006/008
D207/D308

(S. Kielich); Katedra Fizyki Doświadczalnej Uniwersytetu im. A. Mickiewicza w Poznaniu (Department of Experimental Physics, A. Mickiewicz University, Poznań)
(M. Surma)

J

Card 4/4

KIELICH, Stanislaw

Influence of intermolecular forces on the magnetic birefringence of imperfect gases and their mixtures. Acta physica Pol 22 no.1:65-89 Jl '62.

1. Institute of Physics, Polish Academy of Sciences, Poznan.

KIELICH, S.; PIEKARA, A.

A statistical molecular theory of electric, magnetic and optical
saturation phenomena in isotropic dielectric and diamagnetic media.
Acta physica Pol 18 no.5:439-471 '59.

1. Institute of Physics, Polish Academy of Sciences, Poznan and A.
Mickiewicz University, Poznan.

KIELICH, Stanislaw

Molecular theory of magnetic birefringence in gases and
liquids. Prace matem przyrod Poznan 11 no.1:65-112
'62.

1. Instytut Fizyki, Polska Akademia Nauk, Poznan.

P/045/62/022/001/005/006

AUTHOR: Kielich, Stanislaw

TITLE: Influence of intermolecular forces on the magnetic birefringence of imperfect gases and their mixtures

PERIODICAL: Acta Physica Polonica, v. 22, no. 1, 1962, 65-89

TEXT: One can calculate the molecular Cotton-Mouton constant C_m from experimental data on the basis of the following formula:

$$C_m = \frac{6n^2}{(n^2+2)^2} VC, \quad (1.1)$$

where V denotes the molar volume of the diamagnetic medium with the refractive index n , and C is the experimental Cotton-Mouton constant. On the other hand, the classical theory of magnetic birefringence based on statistical mechanics gives the following formula for the constant C_m of a diamagnetic medium

$$C_m = \frac{\pi}{45} \left\langle \sum_{\mu=1}^N \frac{\partial^2 m_\mu^{(d)}}{\partial E_\mu \partial H_\mu} + \frac{1}{kT} \sum_{\mu=1}^N \sum_{\nu=1}^N \frac{\partial m_\mu^{(d)}}{\partial E_\mu} \frac{\partial m_\nu^{(d)}}{\partial H_\nu} \right\rangle, \quad (1.2)$$

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where

$$\epsilon_{\text{eff},\text{m}} = -2\delta_{\sigma}\delta_{\text{m}} + 3\delta_{\sigma\sigma}\delta_{\text{m}} + 3\delta_{\sigma\eta}\delta_{\text{m}}$$

Here, $m_{\sigma}^{e(p)}$ is the σ -component of the electric dipole moment of the p-th molecule of the medium acted on by the electric field E of the incident light wave and the magnetic field H causing birefringence of the medium.

$m_{\sigma}^{(q)}$ is the σ -component of the magnetic dipole moment of the q-th molecule of the fields E and H. The symbol $\langle \dots \rangle$ denotes the mean statistical value when external fields are absent ($E = H = 0$), whereas $\delta_{\sigma\sigma}$ is the unit tensor. In the present paper Eq. (1.2) is applied to real gases. It is shown that the constant C_m can be represented in the form of a power series in the density ρ :

$$C_m = A_C + B_C\rho + C_C\rho^2 + \dots, \quad (1.3)$$

where the successive coefficients of the expansion: A_C , B_C , C_C , and

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so on are termed the first, second, third etc. Cotton-Mouton constant virial coefficients. According to classical statistical mechanics, the first virial coefficient A_C describes a system of noninteracting molecules, i. e., the Cotton-Mouton effect in a perfect gas. The second virial coefficient B_C characterizes the two-body interactions of the molecules of the system, the third virial coefficient C_m - three-body interactions, etc. In the case when the gas is subjected to not too high pressure, the second virial coefficient B_C defines the main deviation of the molecular constant C_m from its value for a perfect gas (i.e. from A_C). This deviation is due to mutual interaction between pairs of molecules and, consequently, the value of this departure gives information about the type of intermolecular forces and their rôle in the phenomenon of magnetic birefringence. Further corrections to the constant C_m , defined by means of higher virial coefficients, are not

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discussed in this paper. Calculations are given for the second virial coefficient for the following molecular models of non-dipolar, quadrupolar, and dipolar gases: spherical molecules, anisotropically polarizable molecules, quadrupole molecules, dipole molecules, and dipole molecules with hyperpolarizability. In the case of a gas consisting of spherical molecules it is shown that C_m is a function of the density ρ

and the temperature T when the gas is suitably condensed. Further calculations show the influence of various types of intermolecular interactions on the constant C_m in the case of polar gas mixtures. Two appendices give a calculation of the potential energy for the tensorial interaction of polar molecules and a method for calculating contributions to B_C resulting from tensorial intermolecular forces. The English language references are: Barker, J. A., Proc. Roy. Soc. (London), A 219, 367 (1953); De Boer, J., Physica, 9, 363 (1942); De Boer, J., Van der Maessen, F., and Ten Seldam, C. A., Physica, 19, 265 (1953);

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P/045/62/022/001/005/006

Influence of intermolecular forces on...

Buckingham, A. D., Proc. Phys. Soc. (London), A 68, 910 (1955);
Quarterly Reviews, 13, 183 (1959); Buckingham, A. D. and Pople, J. A.,
Trans. Faraday Soc., 51, 1173 (1955); Proc. Phys. Soc. (London), B 69,
1133 (1956); Hirschfelder, J. O., Curtiss, Ch. F., and Bird, R. B.,
Molecular Theory of Gases and Liquids (J. Wiley and Sons, Inc., New York)
1954; Lennard-Jones, J. E., Proc. Roy. Soc. (London), A 106, 441 (1924);
London, F., Trans. Faraday Soc., 33, 8 (1937); J. Phys. Chem., 46, 305
(1942); Margenau, H., Rev. mod. Phys., 11, 1 (1939); Pople, J. A., Proc.
Roy. Soc., (London), A 221, 498, 508 (1954).

ASSOCIATION: Institute of Physics, Polish Academy of Sciences, Poznan'

SUBMITTED: October 30, 1961

Card 5/5

KIELICH, S.

Orientation polarization. Pts. 1-2. Bull Ac Pol mat 10 no.9:
485-497 '62.

1. Institute of Physics, Poznan Branch, Polish Academy of
Sciences. Presented by W. Rubinowicz.

KIELICH, Stanislaw; SURMA, Marian

Magnetic birefringence of solutions of liquids. III.
Prace matem przyrod Poznan 11 no.1:153-173 '62.

1. Instytut Fizyki, Olska Akademia Nauk, i Katedra
Fizyki Doswiadczałnej, Uniwersytet im. Adama Mickiewicza,
Poznan.

KIELICH, S.

Orientation polarization.III. Bul Ac Pol mat 10 no.12:657-660
'62.

1. Institute of Physics, Poznan Branch, Polish Academy of Sciences.
Presented by W.Rubinowicz.

KIELICH, Stanislaw

A molecular theory of magnetic birefringence in diamagnetic media. Acta physica Pol 22 no.4:299-327 0 '62.

1. Institute of Physics, Polish Academy of Sciences, Poznan.

KIELICH, S.

Second refractivity virial coefficients for gas mixtures.
Acta physica Pol 22 no.6:477-488 D '62.

1. Institute of Physics, Polish Academy of Sciences, Poznan.

KIELICH, Stanislaw

On nonlinear light scattering in gases. Acta physica Pol 23 no.3:
321-332 Mr '63.

1. Institute of Physics, Polish Academy of Sciences, Poznan.

KIELICH, Stanislaw

Luminescence diffusion in the presence of an intense, electric
or magnetic field. Acta physica Pol 23 no.6:819-841 Je '63.

1. Institut de Physique, Academie Polonaise des Sciences, Poznan.

KIELICH, Stanislaw

On the determination of the octopole moment of tetrahedral molecules from investigation of the second virial coefficients. Acta physica Pol 24 no.3:389-397 S'63.

1. Institute of Physics, Polish Academy of Sciences, Poznan.

KIELICH, S.

Nonlinear optical effects in gases. Pts.1-2. Bul Ac Pol mat 11
no.4:193-203 '63.

1. Department of Dielectrics, Poznan, Institute of Physics,
Polish Academy of Sciences. Presented by A. Piekara.

KIELICH, S.

Nonlinear light scattering by molecules without a center of inversion. Bul Ac Pol mat 12 no. 1: 53-60 '64.

1. Department of Dielectrics (Poznan), Institute of Physics, Polish Academy of Sciences. Presented by A. Piekara.

KIELICH, Stanislaw

Statistical mechanics of hexadecapolar systems. Acta physica
Pol 25 no.1&39-50 Ja '64

1. Institute of Physics, Polish Academy of Sciences, Warsaw.

ACCESSION NR: AP4017211

P/0045/64/025/001/0085/0099

AUTHOR: Kielich, Stanislaw

TITLE: Light scattering by an intense light beam

SOURCE: Acta physica polonica, v. 25, no. 1, 1964, 85-99

TOPIC TAGS: light, light scattering, laser, light beam, molecular light scattering, polarized light

ABSTRACT: This article extends the author's 1960 linear concept of molecular light scattering to the nonlinear scattering by a single light beam of very great intensity in an isotropic medium. A fundamental equation is set up for the intensity of nonlinearly polarized light from which general formulas are derived for the non linear variation of the depolarization ratio D and Rayleigh's ratio S. The discussion is restricted to scattering systems of spherical, tetrahedral, and axially symmetric molecules with or without inversion centers. To permit direct numerical evaluation of the final results, the intermolecular angular correlations and the effect of the molecular field on the induced electric moment were omitted. The evaluations suggest that slight changes in the depolarization ratio and Rayleigh's ratio will permit the detection of an intense light

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ACCESSION NR: AP4017211

beam in molecules with an inversion center, while in those without it the original nonlinear variations of D and S are operable at a relatively low light beam intensity of 10^3 esu. Polarizability and hyperpolarizability tensors are discussed. Studies based on this work are expected to provide data for establishing molecular nonlinear polarization factors. Orig. art has: 67 formulas.

ASSOCIATION: Zaklad Dielektrykow PAN, Poznan (Institute of Physics, PAN)

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ENCL: 00

SUB CODE: PH

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OTHER: 021

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L-15367-65 EMA(k)/ATP(l)/ESD(n)-2/z/ESD(t)-2/ESP(k)/EMA(m)-2 Po-4/PI-4/
PI-4/PI-4 ATP(s)/ADM(u)-5/ATM(l)/BD/ESD/AS(mp)-2/ATP(r)/ATP(p)/RAE(s)/
ESD(gn)/ESD(t) NO/ABP
ACCESSION NR: AP4046071 P/0043/64/026/001/0135/0154

AUTHOR: Kielich, Stanislaw

TITLE: Theory of molecular light scattering in the presence of an
intense light beam

SOURCE: Acta physica polonica, v. 26, no. 1, 1964, 133-154

TOPIC TAGS: nonlinear optics; light scattering; laser; nonlinear light
scattering; Raman scattering; Rayleigh scattering

ABSTRACT: The light scattered from a weak light beam of frequency ω_1
in the presence of an intense electric field of another light beam
(laser beam) at frequency ω_2 is investigated. It is shown by quantum
mechanics to the third degree of approximation that due to the effect
of the intense light beam, two new Raman components appear in addition
to the component at the normal Raman frequencies ω_{R1} and ω_{R2} . One of the
new components at frequencies $\omega_1 + \omega_2$ and $\omega_1 - \omega_2$ appears only for mole-
cules lacking a center of inversion. The other component at frequen-
cies $\omega_1 + 2\omega_2$ and $\omega_1 - 2\omega_2$ appears in all other cases including optically

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L 16367-69
ACCESSION NR: AP4086071

isotropic molecules. Analysis of the nonlinear contributions to the light scattering tensor is restricted to the purely classical case and is conducted only for gases consisting of molecules possessing a center of inversion (point groups $D_{\infty h}$, $C_{\infty v}$, T_d and O_h) and those without a center of inversion (point groups D_2 , D_{2h} , $D_{\infty h}$, $C_{\infty v}$, C_{2v} , $C_{\infty h}^{\prime}$ and T). Numerical evaluations for $C_{\infty v}$ and T_d show that it may be possible to observe changes in the degree of depolarization and Rayleigh ratio, provided these changes are produced by a light beam with an electric field of the order of at least 10^3 esu. Orig. art. has: 63 formulas.

ASSOCIATION: Institute of Physics, Polish Academy of Sciences, Poznan

SUBMITTED: 02Mar64

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NO REF Sov: 000

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Card 2/2

KIELICH, Stanislaw

Theory of molecular diffusion of light in gases and liquids.
Prace matem przyrod Poznan 11 no. 2:3-50 '64.

Effect of molecular interactions on the diffusion of light in
mixtures of actual gases. Ibid.:51-86

Statistical theory of electric birefringence of multiple systems.
Ibid.:87-111

1. Department of Dielectrics, Institute of Physics, Polish Academy
of Sciences, Poznan.

KIELICH, Stanislaw

Theory of molecular light scattering in the presence of an intense
light beam. Acta physica Pol 26 no.1:135-154 Jl '64.

1. Institute of Physics, Polish Academy of Sciences, Poznan.

145947-6
ACCESSION-NR: A25009959

PU/0045/65/027/002/0305/0322

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B

AUTHOR: Kielich, S.

TITLE: The role of molecular multipole interactions in the electric polarization of multicomponent systems. I. Distortion polarization

SOURCE: Acta physica polonica, v. 27, no. 2, 1965, 305-322

TOPIC-TAGS: multipole interaction, molecular multipole interaction, electric polarization, multicomponent system, distortion polarization

ABSTRACT: The theory of the electric polarization of a multicomponent system is developed on the basis of the existing statistical theories. It is assumed that a molecule p has in general a 2^n -pole permanent electric moment $M_p^{(n)}$ and the 2^n -pole moment $P_p^{(n)}$ induced by the total electric field of order n (external $E(n)$ plus molecular $\tau_{p,q}^{(n)}$). A general expression for the n-th order molecular field $F_p^{(n)}$ at the molecule p is obtained in terms of the permanent multipole moments $M_q^{(n)}$, 2^n -pole- 2^m pole interactions tensor $\tau_{p,q}^{(n,m)}$ between molecules p and q, and $n+m$ rank polarizability tensor $\alpha_{p,q}^{(n,m)}$ characterizing the polarization of the 2^n -pole moment of a molecule p due to the electric field of order m. The fundamental equa-

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ACCESSION NR: AF5009959

tion thus obtained for the dipole distortion polarizability P_D of the medium is discussed in some orders of approximations. In the zero-approximation, when multipole interactions between permanent moments of the molecules are absent in the dipole polar system, the calculation of P_D is performed to the third power in the dipole polarizability and first power of the field constant quadrupole polarizability, of the molecule. In this case P_D is formally expressed as a power series in molar fractions, whose first term represents the additivity rule, while the subsequent terms account for deviations therefrom. By appropriate simplifying assumptions these results reduce to the known formulas. In further approximations the temperature-dependent contributions to P_D resulting from the non-zero multipole interaction potential energy are calculated in the case of dipolar systems, quadrupolar systems or systems of molecules possessing both dipole and quadrupole moments. The effect of anisotropy in the dipole polarizability of the individual molecules is also taken into account. These calculations are performed for simplicity in the pair correlation approximation only. Orig. auth. has: 80 equations.

ASSOCIATION: Institute of Physics, Polish Academy of Sciences, Poznan

SUBMITTED: 07 Jun 64 SUB CODE: GP, EM

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TOMCAT: 002

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REF ID: A6513
L. M. L. SPY(c) PF-4 27
ACCESSION NR: AP5011482

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B

AUTHOR: Kielich, S.

TITLE: Octupole moment of the methane molecule

SOURCE: Acta physica polonica, v. 27, no. 3, 1965, 457-464

TOPIC TAGS: Octupole moment, methane, methane molecule, dielectric polarization, tetrahedral molecule, equation of state

ABSTRACT: By simple calculations it is shown that available measuring techniques do not permit the direct determination of the sign and numerical value of the octupole moment of molecules from the effect of their orientation by the gradient of an external electric field's gradient. Nevertheless, indirect methods involving contemporaneous results on the second virial coefficients or the equation of state for gases or dielectric polarization in gases are shown to lead easily, rapidly, and with sufficient accuracy to the octupole moment of tetrahedral molecules. These methods as applied by the author lead to an octupole moment of $5-6 \times 10^{-34}$ e.s.u. cm^3 , a value that may well correspond to reality. The author thanks J. R. L. G. M. Spij., for the English translation of this paper. "Orig. art. has 24 equations and 2 tables."

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L 8540-66 EWT(1) IJP(c) GG/WW

ACCESSION NR: AP5018826

P0/0045/65/027/006/0913/0928

AUTHOR: Kielich, S.

TITLE: On the multipole moments induced in molecules by the ^{21, 44, 5} electric fields of ^{21, 44, 5} several light waves

SOURCE: Acta physica polonica, v. 27, no. 6, 1965, 913-928

TOPIC TAGS: dipole moment, ^{21, 44, 5} light scattering, laser beam, multipole order, non-linear effect

ABSTRACT: A consistent and general tensor formula is proposed for the computation of multipole electric moments induced in atoms or molecules by electric fields that vary both in time and in space. As an example, the formalism is applied to compute the tensor of electric multipole light scattering and the tensor of the optical permittivity in the first, second, and third-order approximations of perturbation theory. The dependence of the r-th order molecular 2^n -pole moments on the r-th power of the electric field of given order inducing them is described by multipole polarizability tensors of appropriate rank. When restricted to the dipole approximation, the general results obtained in this paper reduce to those obtained earlier by the author (Acta Phys. Polon. v. 26, 135, 1964 and elsewhere).

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L 8540-66

ACCESSION NR: AP5018826

The results can be employed to obtain valuable information on the direct and generally nonlinear influence of oscillating electric fields on the properties of atoms and molecules, under the influence of intense oscillating electric fields as in laser beams. Orig. art. has: 67 formulas.

ASSOCIATION: Katedra Fizyki Doswiadczonej, Uniwersytet im. A. Mickiewicza, Poznan
(Department of Physics, A. Mickiewicz University, Poznan)

SUBMITTED: 12Dec64 ENCL: 00 44:55 SUB CODE: EC, OF

MR REF Sov: 002 OTHER: 031

jw

Card 2/2

ACC NR: AP6035258

SOURCE CODE: PO/0045/66/030/003/0393/0414

AUTHOR: Kielich, Stanislaw

ORG: Department of Molecular Physics, A. Mickiewicz University, Poznan
(Uniwersytet A. Mickiewicza, Katedra Fizyki Molekularnej)

TITLE: Theory of multiphoton transition probabilities

SOURCE: Acta physica polonica, v. 30, no. 3, 1966, 393-414

TOPIC TAGS: transition probability, quantum theory, Hamiltonian, laser effect,
multiphoton, ~~multiphoton transition, multiphoton transition probability~~, electric
multipole transition, magnetic multipole transition, electric polarization,
magnetic polarization

ABSTRACT: The formal quantal theory of first-, second-, and higher-order
radiation processes inherent in electric and magnetic multipole transitions is
developed. The calculated probabilities of two-or more photon processes consist
not only of indirect multipole transitions from initial to final states via one or
more successive virtual states, but also of a direct multipole transition related to

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ACC NR: AP6035258

the second- or higher-order time-dependent interaction Hamiltonian. The general results are discussed in some special cases of electric or magnetic dipolar, quadrupolar, etc. transitions. Tensors of electric and magnetic multipole polarization are derived in the r-th-order approximation of quantal perturbation theory and expressed in terms of r-th-order multipole susceptibility tensors and electromagnetic field strengths in the r-th power. The multipole and nonlinear formalism is given in a compact tensorial notation and can be applied for computing various multiple-photon processes, the investigation of which is liable to provide information on the change undergone by atoms or molecules under the influence of intense electromagnetic fields, e.g. from lasers. The author wishes to express his indebtedness to Dr. P. D. Maker for making available his results on nonlinear light scattering in methane previous to their publication. The authors discussed the problems involved in the investigation with Dr. H. Paul. Orig. art. has: 8 formulas. [Author's abstract]

[KS]

SUB CODE: 20/SUBM DATE: 23Mar66/ORIG REF: 002/OTH REF: 066/

Card 2/2

ACC NR: AP7004353

SOURCE CODE: PO/0045/06/030/004/06.02.17.07

AUTHOR: Kielich, S. (Poznan)

ORG: Department of Molecular Physics, A. Mickiewicz University, Poznan
(Universytet im. A. Mickiewicza, Katedra fizyki molekularnej)

TITLE: Optically induced birefringence

SOURCE: Acta physica polonica, v. 30, no. 4, 1966, 683-707

TOPIC TAGS: birefringence, optical birefringence, electrodynamics, statistic mechanics, refractive index, electromagnetic field, thermal optic effect, molecular interaction, correlation function, molecular physics, oscillation frequency

ABSTRACT: Based on classical electrodynamics and statistical mechanics, a general theory is developed of birefringence, induced in nondispersive isotropic dense media by a very high intensity light beam. A general equation for the light intensity-dependent refractive index is derived by a semi-macroscopic method, from which the optical birefringence constant B is obtained. The constant B consists of two terms, one of which results from the third order optical polariza-

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ACC NR: AP7004853

tion due to the strong oscillating electric field, while the second term arises from the effect of the optical molecular orientation which depends directly on the temperature. The birefringence constant B is discussed in detail for the case of systems which consist of mutually interesting molecules, the latter being isotropically polarizable or optically anisotropic with a center of symmetry, or which possess no center of inversion. Both the radial and angular interactions of the molecules are accounted for by means of binary and ternary correlation functions. The immediate effect on the constant B of electric fields of the induced and permanent molecular dipoles is also taken into account. The fundamentals of a statistical theory of the optical birefringence of multi-component systems, with applications to compressed gas mixtures, are proposed. Orig. art. has: 141 formulas. [Author's abstract]

[NT]

SUB CODE: 20/SUBM DATE: 30Apr66/ORIG REF: 008/OTH REF: 010/

Cord 2/2

KOŁAKOWSKI, W.; PIĘKLIK, J.

Section of the Polish Academy of Sciences dedicated to building materials. p. 275.
(PRZEGLĄD MATERIAŁÓW, Vol. 26, No. 9, Sept. 1977, Warsaw, Poland)

SO: Monthly List of East European Acquisitions, (ELM), EC, Vol. 3, No 12, Dec.
1976, Uncl.

S/194/62/000/006/192/232
D295/D308

AUTHOR: Kiełkiewicz, Andrzej

TITLE: Analysis of the possibilities of simultaneous opera-
tion of color-television networks for various versions
of the NTSC system

PUBLICAL: Referativnyy zhurnal. Avtomatika i radioelektronika,
no. 6, 1962, abstract 6-7-90 t (Prace Inst. Łączn.,
8, no. 2, 1961, 35-55)

TEXT: The problem of simultaneous operation at different channel
bandwidths (7 and 8 Mc/s) is more complicated in color television
than in monochromatic television. The best conditions for a European
television network will be achieved if all countries select one
and the same value of sub-carrier frequency, for example 4.43 Mc/s.
To determine protective coefficients, measurements are needed of
intermodulation noise in monochromatic television and various ver-
sions of color television. The possibility of reception with type
I and Q or R-Y and B-Y signals should also be investigated. 9 figures
and 2 references. [Abstracter's note: Complete translation.]
Caro 1/1

POLAND/Chemical Technology - Processing of Solid Fissile Fuels.

H-22

Abs Jour : Ref Zhur - Khimiya, No 24, 1958, 82957

Author : Kielkiewicz, R.

Inst : -
Title : The Correct Process Operation of a Dry Distillation of Coal
in Gas Plants.

Orig Pub : Gaz. woda, techn. sanit., 1958, 32, № 1, 27-31.

Abstract : Since an increased content of N₂ (up to 25%) in manufactured gas was noted in individual gas plants (with chamber or retort ovens), the theoretical fundamentals of a dry coal distillation were examined, and it was demonstrated, using one of the plants as an example, that the excessive nitrogen in a gas originates as the result of a disturbance in the hydraulic system of the ovens, particularly due to their forced operation by increasing the gas removal by suction and consequently in doing so, air was unavoidably sucked in.

Card 1/2

- 13 -

KIELKIEWICZ, R.

The problem of gas supply during periods of maximum consumption. p. 179

GAZ, WODA I TECHNIKA SANITARNA (Stowarzyszenie Naukowo-Techniczne Inżynierów i Techników Sanitarnych, Ogrzewnictwa i Gazownictwa) Warszawa, Poland.
Vol. 33, no. 5, May 1959

Monthly List of East European Accessions (EEAI) LC, Vol. 8, no. 9, September 1959
Uncl.

KIELKIEWICZ, Mladyslaw

External washing of passenger cars. Przegl kolej mechan
ll [i.e. 16] no.2:54-59 F '64.

1. Central Railway Car Administration, Warsaw.

KIELKIEWICZ, W.

Marshaling yards for the composition of passenger trains on the French railroads (SNCF). Przegl kolej mechan 14 no.8:237-240 Ag '62.

1. Centralny Zarzad Wagonow, Warszawa.

KIELKIEWICZ, Wladyshaw

Marshaling yards for the composition of passenger trains. Przepl.
kolej.mechan. 14 no.7:197-198 Jl '62.

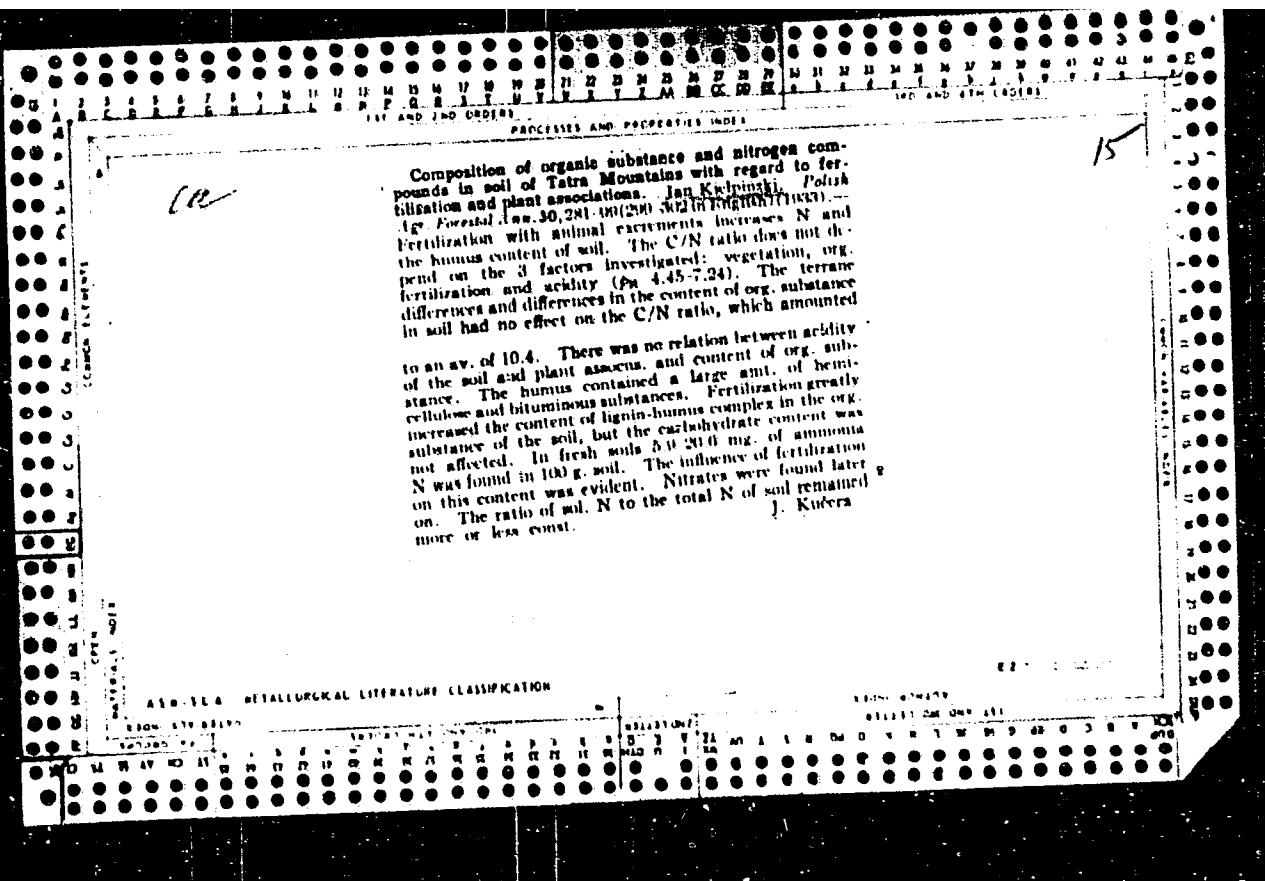
1. Centralny Zarzad Wagonow, Warszawa.

STACHURA, Jerzy; JORDECZKA, Stanislaw; KIELOCH-SZKODA, Matylda; SEK,
Stanislaw.

Diagnostic difficulties in pulmonary adenomatosis. Pol. tyg.
lek. 19 no.3:86-89 20 Ja'64

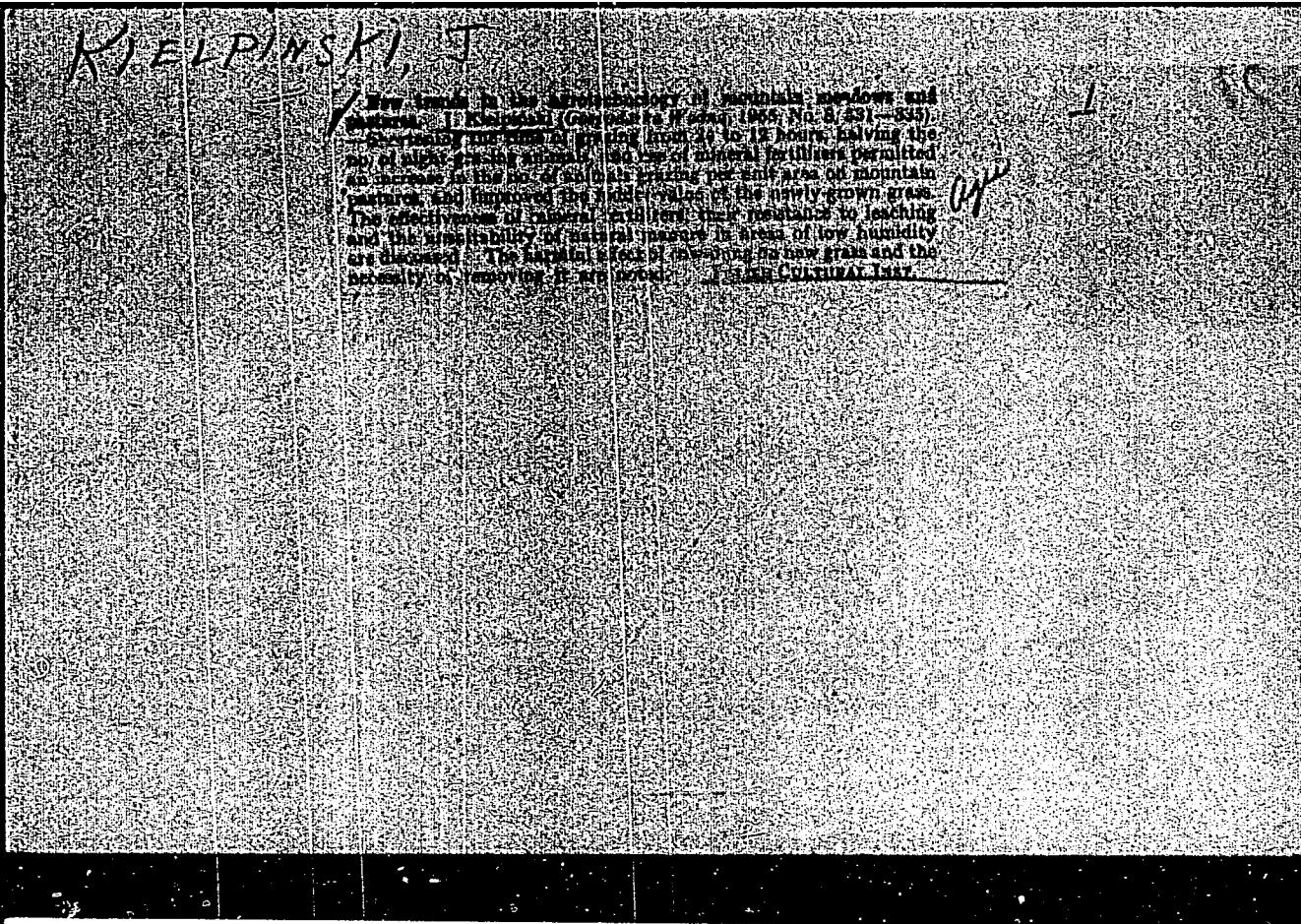
1. Z Zakladu Anatomii Patologicznej AM w Krakowie; (kierownik:
prof. dr. Janina Kowalczykowa) ; z Sanatorium Przeciwgruźliczego
w Bystrej Slaskiej (dyrektor: lek. Stanislaw Jordeczka) i z
Kliniki Ftyzjatrycznej AM w Krakowie (kierownik: prof.dr.
Stanislaw Hornung).

*



KIELPINSKI, J.

Effects of mineral fertilizers on the quality and quantity of hay of
the *Nardus stricta* mountain-pasture type. J. Kielpinski and K. Gierat
(*Zeszyt Nauk. Rol.*, 1954, 68, A, 243-260). On the soils examined
application of K + P + N fertilizers increased the total yield and
crude protein production of the crop, the % of crude fiber being un-
affected. Yields were similarly affected by N + P but were
practically unaffected by K + P fertilizers. Fertilizers containing
N diminished the proportion of *N. stricta* and *Vaccinium myrtillus*
in the herbage. Growth of red clover was increased by K + P.
A. G. POLLARD.



POLAND / Meadow Cultivation.

L

Abs Jour : Ref Zhur - Biologiya, No 6, 1959, No. 24764
Author : Kielpinska, J.; Karkoszka, W.; Wisniewska, S.
Inst : Not given
Title : Effectiveness of Magnesium Thermophosphates
on Mountainous Meadows
Orig Pub : Roczn. nauk rolniczych, 1956, F71, No 4,
1045-1050

Abstract : On a background of 100 kg/ha of K₂O, there
was compared (Yavorki, Poland) the action
of 80 kg/ha of P₂O₅ in the form of Thomas
slag (I) and magnesium thermophosphates -
unground (II), of coarse grind, 80% of which
had passed through a sieve with 900 meshes
per 1 cm² (III), and of fine grind, 80% of
which had passed through a sieve with 4900

Card 1/2

WILHELM, J.

A conference on the problem of studies of water management in the mountains.
p. 27. (Gospodarka Wodna, Vol. 17, No. 2, Feb 1957, Warsaw, Poland)

SO: Monthly List of East European Acquisitions (EEAL) 16, Vol. 6, No. 2, Aug 1957. Incl.

NOWAK, Mieczyslaw; KIELPINSKI, Jan

More about mineral fertilizing of mountain meadows; also, remarks by Professor Jan Kielpinski and the answer by Mieczyslaw Nowak. Postepy nauk roln 7 no.1:125-138 Ja/F '60. (EEAI 9:10)

1. Instytut Zootechniki, Krakow (for Nowak)
(Poland--Meadows)
(Fertilizers and manures)

KIELPINSKI, Jan

8th International Grassland Congress in Reading, July 11-21, 1960.
Postepy nauk roln 8 no.1:143-149 '61. (EEAI 10:8)
(International Grassland Congress)
(Pastures) (Meadows)

KIELSKI, Andrzej

Properties of refractories from Albanian chrome ore and Czechoslovak magnesite. Ceramika no.3:12-19 '59. (EEAI 9:9)

1. Katedra Technologii Materiałów Ogniotrwałych AGH
(Refractory materials) (Albania--Chromium)
(Czechoslovakia--Magnesite)

KIELSKI, P.

A possible increase of production in open-hearth steel plants by applying the proper analysis of technical and economic indicators. p. 153.
(HUTNIK. Katowice. Vol. 24, no. 4, Apr. 1957)

30: Monthly List of East European Accessions (EEAL) LC, Vol. 6, no. 7, July 1957. Uncl.

KIELSKI, P.

TECHNOLOGY

Periodicals: NORMALIZACJA. Vol. 26, no. 9, Sept. 1958

KIELSKI, P. Steel scrap; technical-economic and standardization problems. p.407

Monthly List of East European Accessions (EEAI) LC, Vol. 8, No. 2,
February 1959, Unclass.

KIELSKI, Paweł, mgr inż.

Standardization of iron ore sampling methods for chemical analysis.
Wiad hut 19 no.4:98-103 Ap '63.

KIELSKI, P., mgr inz.

Trend in the change of sizes in connection with the amended
standards of hot rolled angle steels. Hutnil. P 29 u. 7, 3:299-
306 Jl-Ag '62.

HOLUBIEC, Jerzy; KIELSZNIA, Robert

Load variability in the Warsaw electric power system in the years
1958, 1959, and 1960. Przegl elektrotechn 38 no.1:23-32 '62.

NOWICKI, Stefan; JANICZEK, Jozef; KIELSZNIA, Robert

The betatron. Przegl elektroniki 4 no.3:178-189 '63.

1. Instytut Elektrotechniki, Warszawa.

KIENAST, F.

Use of machinery in open-pit mines, p. 220, UHLI (Ministerstvo paliv
a energetiky) Praha, Vol. 5, No. 7, July 1955

SOURCE: East European Accessions List (EEAL) Library of Congress,
Vol. 4, No. 12, December 1955

KIENITZ, Alfred

Problem of costs in liquid fuel transportation. Rozpr hydrotechn
no. 15:181-185 '64.

KIENITZ, Alfred, Mgr.

Spatial planning in harbors. Tech gosp morska 10 no.5/6:142 My-Je
'60.
(EEAI 9:10)

1. Instytut Budownictwa Wodnego PAN, Gdańsk.
(Harbors)

KIENITZ, Alfred

The technical and economic criteria of equipment of oil harbors
in the light of Western-European experiences. Rozprawy hydrotechn
no.9:113-138 '61.

KIENITZ, Alfred, mgr; ROBAKIEWICZ, Wojciech, mgr inz.

Possibilities of space extension of the harbors of the central part of the Polish seacoast. Tech gosp morska 12 no.7/8:224-225 Jl-Ag '62.

1. Instytut Budownictwa Wodnego, Polska Akademia Nauk, Gdańsk.

KIEHNZ, G.

KIEHNZ, G. - Economic planning of surface drainage. p. 397, Vol. (37)
no. 3/4, 1955
VILLAGYI KÖNYVKIADÓ. NYELVÜLŐ MŰGINNSZET. (Körlektori
Miniszterium. Vizgazdálkodási Tudományos Kutatás Intézet)
Budapest.

SOURCE: East European Accessions List (EAL) Vol. 6, No. 4--April

KIENITZ, G.

Detecting hydrologic effect of changes occurring in watersheds by means of double-mass analysis. p.123.

VÍZÜGYI KÖSLÉPÉMYEK. HYDRAULIC PROCEEDINGS. (Kozlekedesugyi Miniszterium. Vizgazdasági és Technikai Kutatások Intézet) Budapest. Vol 38, no. 1, 1956.

SOURCE: E' AL, Vol 5, no. 7, July 1956.

KIENITZ, Gabor,okl.mernok

Inland drainage of the Hortobagy area. Vizugyi kozl no.l:
103-121 '62.

1. A Vizugyi Tervezo Iroda tervező mernöke.

KIENKAS, I.

On the possibility of further hydrolysis of certain peptolysis
products in the preparation of muscle protein hydrolyzates.
Vestis Latv ak no.4:125-132 '61. (EEAI 10:9)

(Hydrolysis) (Peptones) (Muscles) (Proteins)

KIENKAS, I.

Parentrial feeding with masolv protein hydrolysates in
experiments on dogs. Izv.AN Latv.SSR no.11:81-90 '63.
(MIRA 17:4)

KIENKAS, I.

Biological test of muscle protein hydrolysates. Izv.AN Latv.SSR
no.7:129-134 '63.
(MIRA 17:4)

KIENKAS, I.

Some possibilities of the further hydrolysis of some peptolysis
products in the preparation of muscle protein hydrolysates.
Izv. AN Latv. SSR no.4:125-132 '61. (MIRA 16:1)

(Protein hydrolysates) (Peptones)

KIENLE, Erno, dr.

Experience with the investigation of labor hygiene
of the artificial lighting of industrial plants.
Munkavedelem 8 no.10/12:28-30 '62.

1. Pensi Orvostudomanyi Egyetem Kozegeszsegtni
Intezete.

KIEPAL-KOCHANSKA, Z.

EXCERPTA MEDICA Sec 2 Vol 12/11 Physiology Nov 59

5486. A HYPOTHETICAL MECHANISM FOR BIOSYNTHESIS OF RIBONUCLEIC ACID AND PROTEIN - Kiepal-Kochanska, Z., - BULL. ACAD. POL. SCI. CL. 2 1958, 6/11-12 (435-450)

The hypothetical mechanism is based on the following premises: (1) for the synthesis of protein, new RNA must be synthesized concomitantly; (2) in any case of mutual dependence of 2 processes, this relationship must depend on their internal, functional connection; and (3) the reversible phosphorolysis of RNA, as described by Grunberg-Manago and Ochoa, is to be regarded as a general reaction in microorganisms, and also perhaps higher plants and animals. The reversible phosphorolysis suggests functional coupling of polynucleotide and polypeptide syntheses through reception and freeing of phosphate groups. The proposed mechanism is as follows:

(1) $(XRP)_N + n ATP \rightarrow n XRP-P + n ADP$; (2) $n XRP-P + n AA \rightarrow (XRP)_N + n AA-P$;

(3) $n AA-P + n ADP \rightarrow (AA)_N + n ATP$; or, instead of (3)

(4) $XRP-P \rightarrow (XRP)_N + n AA-P$

$nAA-P + nADP \rightarrow (AA)_N + n ATP$ where $(XRP)_N$ = RNA; $XRP-P$ = nucleoside diphosphates; AA = amino acid. A detailed mechanism in terms of chemical formulae is proposed. Data of other investigators supporting the hypothesis of the author are presented.

Tsao - Ann Arbor, Mich.

KIEPURA, Maria

Devonian bryozoans of the Gory Świętokrzyskie Mountains in Poland.
Pt. I. Acta palaeont. Pol. 10 no. 1: ill.-56 - '65.

I. Institute of Palaeozoology of the Polish Academy of Sciences,
Warsaw. Submitted December 1963.

KIEPURSKA, Alicja

Etiology of congenital abnormalities. Postepy chir. 2:5-19
1955.

1. Z III Kliniki Chirurgicznej AM w Warszawie, Kierownik prof.
Dr. A. Gruca.
(ABNORMALITIES, etiology and pathogenesis,
(Pol))

KIEPURSKA, Alicja

Spondylolisthesis. Chir. narz. ruchu 21 no.2:121-140
1956.

1. Z Kliniki Ortopedycznej Akademii Medycznej w Warszawie
Kierownik: prof. dr. A. Gruca, Warszawa, ul. Nowogrodzka 59.
(SPONDYLOLISTHESIS,
(Pol))

KIEPURSKA, 'LICJA

KIEPURSKA, Alicja (Piastow, ul. Krasinskiego 31.)

Dystonic scoliosis in the light of biochemical data, Chir. narz.
ruchu 22 no.2:143-146 1957.

1. Z Kliniki Ortopedycznej A. M. w Warszawie Kierownik: prof. dr
A. Gruca Z Miedzyskolnej Przychodni Lekarskiej Nr 1 w Warszawie
Kierownik: dr K. Sokal. Kierownik naukowy: prof. dr G. Wejsflog.
(SCOLIOSIS, in inf. & child

metab. in dystonic scoliosis (Pol))

(BODY FLUID BALANCE, in var dis.

dystonic scoliosis in child. (Pol))

Kiepurska, Alicja

EXCERPTA MEDICA Sec.9 Vol.12/4 Praga April 1958

1925. (510) EARLY RESULTS OF TREATMENT OF MODERATE SCOLIOSIS BY MULTIPLE OPERATIONS - Wczesne wyniki leczenia bocznych skrzywien kręgosłupa II stopnia zabiegami wieloczasowymi - Kiepurska A. and Serafinowa R. Klin. Ortop. A.M., Warszawa - CHIR.NARZAD.RU-CHU 1957, 22/3 (281-286) Graphs 2 Tables 3 Illus. 18

The early results of treatment obtained in 12 cases are reported. Because of extensive dystonic alterations in the muscles, revealed by electrodiagnostic studies, multiple operations had to be performed. In 12 children, aged 4 to 14, 28 various operative procedures have been carried out (liberation of the spine, with insertion of a screw spring device, alloplasty with the use of rubber bands and springs, fasciodesis activated by serratus anterior muscle, transplantation of the inferior insertion of the erector trunci muscle to the iliac crest). Muscle transplantations according to the Schepelmann technique were done as a supplementary procedure. The results were assessed in lying children, for some of them are still in bed after last operation. An average angle of the primary curve was 56.4° before operation, and became reduced to 39.7° following treatment. Mean correction averaged 29.9%. Correction of the primary curve was accompanied by spontaneous reduction of the counter-curves. Of 12 children under observation, 8 were improved, 4 remained not improved. These failures were due to the interruption of treatment in 3 cases, errors in planning and performing of operation and to postoperative complication.

KIEPURSKA, A.; MIGDAISKA, Z.; BESKID, M.

Observations on cases of developmental reticuloendothelial changes.
Chir. narz. ruchu 23 no.3:229-236 1958.

1. Z Kliniki Ortopedycznej A. M. w Warszawie Kierownik: prof. dr A. Gruca Z I Kliniki Chorob Wewnętrznych A. M. w Warszawie Kierownik: prof. dr. A. Biernacki, Z Zakładu Anatomii Patologicznej A. M. w Warszawie Kierownik: prof. dr L. Paszkiewicz. Adres autorów: Warszawa, ul Lindleya 4, Klinika Oropedyczna A.M.

(KETTERER SIWE DISEASES, in inf. & child,
develop. from eosinophilic granuloma (Pol))
(HAN-SCHUELLER-CHRISTIAN SYNDROME, in inf. & child
name)

SERAFINOWA, Romualda; KIEPURSKA, Alicja

Results of surgical therapy of active tuberculosis of the spine
in children by means of direct approach to the focus. Chir.narz.
ruchu 25 no.2:107-115 '60.

1. Z Kliniki Ortopedycznej A.M. w Warszawie. Kierownik: prof.dr
A. Gruca.
(TUBERCULOSIS SPINAL in inf.& child.)

KIEPURSKA, Alicja; SNRAFINOWA, Romualda

Results of direct interventions on fresh peri-articular tuberculous foci. Chir.narz.ruchu 25 no.2:137-144 '60.

1. Z Kliniki Ortopedycznej A.M. w Warszawie. Kierownik: prof.dr
A. Gruca.
(TUBERCULOSIS OSTEOARTICULAR surg.)

KIEPURSKA, A.

Late results of treatment of scoliosis with posterior alloplasty.
Acta chir. orthop. traum. czech. 29 no. 5:440-444 O '62.

1. Ortopedicka klinika lekarske akademie ve Varsave, prednosta
prof. dr. A. Gruca.
(SCOLIOSIS) (MUSCLE TRANSPLANTATION)

KIEPURSKA, Alicja

Remote results of the treatment of scoliosis with posterior alloplasty.
Chir. narzad. ruchu ortop. pol. 27 no.3:375-383 '62.

1. Z Kliniki Ortopedycznej AM w Warszawie Kierownik: prof. dr A.Gruca.
(SCOLIOSIS)

KIEPURSKA, Maria

POLAND

KIEPURSKA, Maria

Department of Mineral Raw Material Deposits (Zaklad
Zlota Surowcow Skalnych), Geological Institute

Warsaw, Kwartalnik geologiczny, No 5, 1963, pp 514.

"Methods of Working Out Carbonated Series in the North
Klm of the Swietokrzyskie Mountains (Gory)".

KIEPURSKA-ZDZIENNICKA, JOLANIA

BRZOSKO, Witold; KIEPURSKA-ZDZIENNICKA, Jolania

Case of malignant tumor of the kidney complicated by perforation
to the peritoneal cavity. Pediat. polska 31 no.10:1133-1134
Oct 56.

1. Z Zakladu Anatomii Patologicznej A.M. w Warszawie Kierownik:
prof. dr. med. L. Paszkiewicz i z Klinik Propedeutyki Pediatrii
Kierownik: prof. med. Wl. Szenajch.

(NEPHROBIASTOMA, in infant and child,
intraperitoneal perf. (Pol))

BRZOSKO, Witold; KIEPURSKA-ZDZIENNICKA, Jolanta

Cardiac aneurysm in a 12-year-old girl. Pediat. polska 31 no.10;
1135-1138 Oct 56.

1. Z Zakladu Anatomii Patologicznej A.M. w Warszawie Kierownik:
prof. dr. med. L. Paszkiewicz i z Kliniki Propedeutyki Pediatrii
A.M. Kierownik: prof. dr. med. Wl. Szenajch, Warszawa, ul.
Chalubinskiego 5. Zakl. Anat. Patolog.
(MYOCARDIUM,
aneurysm, in adolescent (Pol))

Dr. Boleslaw Jezierski, Jolanta
Surnames (in caps); Given Names

Country: Poland

Ambiental Diseases:

Child Disease Diagnostic Clinic (Klinika Diagnostyczna
Dziecięcej; Chorób Dzieci), Warsaw; Director: Z. LEBELICKI, Head of Dept.

Source: Warsaw, Pediatryia Polska, No 3, Aug 60, p 93-95.

Text: "A Case of Glycogenic Disease."

Co-author:

MEDZIĘC, Janina

KIEPURSKI, W.

Polish Technical Abst.

No. 4, 1953

Other Branches of National
Economy, Miscellaneous

2530

526.32

Kiepuski W. Tower Constructions for Secondary
Triangulation Points. Zabudowa punktow triangulacji
wypelniajacej i zageszczajacej. Przeglad Geodezyjny,
No. 6, 1952, pp. 167-172, 3 tabs.

This article deals with the problems of portable and
stationary survey towers for triangulation points.

It contains a description of portable tower types
and of the method of establishing foundations for them,
together with hints on erection and dismantling.

The article also deals with stationary towers, how
to erect them, and maintenance. An analysis of the
erection and dismantling cycle of portable towers leads
to the conclusion that their use in secondary
triangulation results in certain advantages as effecting
economy of work and materials.

KIEPURSKI, W.

Economic aspects of the Polish triangulation systems, complementary and detailed. p.69

GEODEZJA I KARTOGRAFIA. (Polska Akademia Nauk. komitet Geodezji) Warszawa.
Poland Vol. 8, nos. 7,9; Apr. 1959

Monthly List of East European Accessions (EEAI) LC, Vol. 8, no. 7, July 1959.

Uncl.

R.D.L. 11-1971, B.

"Machinists' Year Survey", (To be cont'd.) p. 127, (CIO, U.S., Nat'l. Org., No. 1, June 1951, "Review, Policy")

10: Monthly List of Right-Earner Accessions, (EWL), 1, Vol. 1, No. 1, May 1951, "incl."

KIEPUSZEWSKI, R.

Machining worm gears, (To be contd.) p. 270. (MECHANIK, Warszawa, Vol. 27, no. 7, July 1954.)

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 4, No. 6, Jun. 1955, Uncl.

REPPENWELL, B.

"Wielkimi Wymi Gospodarczymi", (Conclusion) p. 102, ("Gospodarka", Vol. 17, No. 3,
Aug. 1954, Warsaw, Poland)

At: Monthly Bulletin of East European Economics, (Vol. I), P., Vol. 4, No. 5,
May 1954, "Inst."



KIEPŁADEK, R.

Machine tools for machining worm gears. p. 253.

MACHINĘ. Warszawa, Poland. Vol. 12, nos. 1-2, 7-8, 12; Jan.-Feb., July-Sept., Dec. 1957.

Monthly List of East European Accessions (EXAL) IE, Vol. 9, no. 2, Feb. 1960.
Incl.

KIEPUSZENSKI, B..

The finishing of worm gears. p. 183

MECHANIK. (Stowarzyszenie Inżynierów i Techników Mechaników Polskich) Warszawa, Poland. Vol. 4, no.4, July/Aug. 1959.

Monthly List of East European Accession. (EEAI) LC, Vol. 9, no. 1, Jan. 1960.

Uncl.